# PROJECT DESCRIPTION

### GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE PARTIAL INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AND THE PARTIAL REMOVAL OF THE EXISTING SIGNAL AT THE MD 175 AND DOBBIN ROAD INTERSECTION IN HOWARD COUNTY. MD 175 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

### INTERSECTION OPERATION

THE INTERSECTION IS TO CONTINUE TO OPERATE IN A NEMA SIX PHASE, FULLY-TRAFFIC-ACTUATED MODE. THERE WILL BE EXCLUSIVE DOUBLE LEFT TURNS ON BOTH MD 175 APPROACHES. THE THROUGH MOVEMENTS ON MD 175 WILL OPERATE CONCURRENTLY WHILE THE DOBBIN ROAD APPROACHES WILL OPERATE AS A SIDE ROAD SPLIT.

### CONTROL REQUIREMENTS

INSTALL AN EIGHT PHASE FULLY-TRAFFIC-ACTUATED SOILD STATE DIGITAL CONTROLLER WITH EIGHT FOUR-CHANNEL TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH HARNESS, BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE WITH HARNESS, TELEMETRY ISOLATION BOARD, QUICK CONNECT TERMINAL BLOCK AND SPECIAL RELAY HOUSED IN A NEMA SIZE \*6\* BASE MOUNTED CABINET

### SPECIAL NOTE

THE EXISTING SIGNAL INTERCONNECT IS TO BE MAINTAINED. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF SIGNAL INTERCONNECT PLAN TO THE ENGINEER AND THE OFFICE OF TRAFFIC AND SAFETY FOR THEIR APPROVAL PRIOR TO ANY WORK COMMENCING WITH THE SIGNAL OR INTERCONNECT. LISTED BELOW ARE THE CURRENT OFFICE OF TRAFFIC AND SAFETY PERSONNEL.

ALL FIELD WIRING TO THE PROPOSED CONTROLLER CABINET SHALL TERMINATED AT THE APPROPRIATE CONTROLLER CABINET CONNECTORS. PLUS FIFTEEN FEET OF COILED CABLE, BY THE CONTRACTOR AND LABELLED. ALL OTHER CONTROLLER CABINET WIRING, EITHER AT THE PROPOSED OR EXISTING CONTROLLER. WILL BE PERFORMED BY THE S.H.A. SIGNAL SHOP. CONTACT MR. ROBERT SNYDER AT 410-787-7631 SEVENTY-TWO HOURS IN ADVANCE OF INTENDED WORK.

72 HOURS PRIOR TO ANY WORK ON THE TRAFFIC SIGNAL, THE CONTRACTOR SHALL NOTIFY THE DISTRICT 7 TRAFFIC SECTION REPRESENTATIVE, MR GEORGE MILLER (1-800-635-5119), THE SIGNAL OPERATIONS SUPERVISOR, MR. EDWARD RODENHIZER (410-787-7652) AND THE SIGNAL SYSTEMS REPRESENTATIVE, MR. WOODROW HOOD III (410-787-5878).

### WIRING DIAGRAM A,B,C,D,E,F,G,H,J,K,L,M,N,O,P,Q, R,S,T,U,V,W,X,Y,AA,BB,CC,EE,FF ② g,h,j,k,l,m,o, p,q,r,s,t,FF S,T,U -> A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, (3) O,R,S,T,U,V,W,X,Y,q,h,i,k,I,m,o, p, q, r, s, t, u, v, w, AA, BB, CC, EE, FF j,k,l,s,FF ---G,H,J,S,T,U,E, F, G, H, J, S, T, U, j, K, I, S-CC,DD-\_\_O,P,Q,R,CC-V, W, X, Y, AA -E, F, G, H, J, O, P, Q, R, S,T,U,j,K,I,S,CC -- V, W, X, Y, FF BGE TRANSFORMER -A,B,C,D,M,N,V, W, X, Y, BB, EE M, N, V, W, X, Y, BB, EE-2-CONDUCTOR ELECTRICAL CABLE

(ALUMINUM-SHIELDED, NO.14 A.W.G.)

5-CONDUCTOR ELECTRICAL CABLE

2-CONDUCTOR ELECTRICAL CABLE

TYPE T/C (NO. 12 A.W.G.)

M,N,O,P,Q,R,) MICRO-LOOP PROBE LEAD-IN

(NO.14 A.W.G.)

(NO.14 A.W.G.)

g,h,j,k,l,m, \ 7-CONDUCTOR ELECTRICAL CABLE

S, T, U, V, W, X, Y)

a, b, c, \

d,e,f)

0,p,q

r,s,t

u, v, w } I-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

DD } EXISTING INTERCONNECT TO TAMAR DRIVE

EXISTING INTERCONNECT TO SNOWDEN RIVER PARKWAY

12 PAIR COMMUNICATION CABLE, JELLY-FILLED - BETWEEN

12 PAIR COMMUNICATION CABLE, JELLY-FILLED - BETWEEN

THE SNOWDEN RIVER PARKWAY SPLICE BOX AND DOBBIN RD.

EXISTING INTERCONNECT TO DOBBIN CENTER WAY

THE TAMAR DRIVE SPLICE BOX AND DOBBIN ROAD

## EQUIPMENT LIST "A"

A.	EQUIPMENT	TO	BE	SUPPLIED	ВΥ	THE	ADMINISTRATION:

CODE NO. SECTION QUANTITY DESCRIPTION

CATEGORY SPEC.

ECCENTRAL PROPERTY AND THE PROPERTY OF THE PRO	CATALOGUE CONTRACTOR C		AND Spirit (Salas Spirit Spiri
960035	814	5 EA.	12 IN. I WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
960037	814	6 EA.	12 IN. I WAY 3 SECTION (RA, YA, GA) ADJUSTABLE POLYCARBONATE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
960039	814	2 EA.	12 IN. I WAY 4 SECTION (R,Y,G,GA) ADJUSTABLE POLYCARBONATE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
971017	816	- EA	EIGHT PHASE, FULL TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR WITH HARNESS, BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE WITH HARNESS, TELEMETRY ISOLATION BOARD, QUICK CONNECT TERMINAL BLOCK AND SPECIAL RELAY HOUSED IN A NEMA SIZE *6* BASE-MOUNTED CABINET (PAINTED BROWN).
973023	EI8	116.25 S.F.	SHEET ALUMINUM SIGNS - 5 EACH R3-5(L) (30" X 36") - MAST ARM-MOUNT - I EACH R3-6(L) (30" X 36") - MAST ARM-MOUNT - I EACH ASSOCIATED SHIELD ASSEMBLY "EAST, MD 175, RIGHT ARROW" (30" X 51") - POLE-MOUNT - I EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 175, LEFT ARROW" (48" X 75") - POLE-MOUNT - I EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 175, RIGHT ARROW" (30" X 51") - POLE-MOUNT

- I EACH ASSOCIATED SHELD ASSEMBLY "EAST, MD 175,

LEFT ARROW' (48' X 75') - POLE-MOUNT

# EQUIPMENT LIST "C"

8 EA. FOUR CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)

C. EXISTING EQUIPMENT TO BE REMOVED AND SALVAGED BY THE CONTRACTOR AND DELIVERED TO THE STATES HIGHWAY ADMINISTRATION, 7491 CONNELLY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE WORKING DAYS IN ADVANCE OF DELIVERY.

### QUANTITY DESCRIPTION

I EA. BASE MOUNTED CABINET AND CONTROLLER WITH ALL EXISTING EQUIPMENT

### PHASE DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

		R	(R)	R
(R) (R) (R) (R) (Y) (Y)	R R- R- (R- (Y) RY-) (Y) RY-) (Y) RY-) (R- (	R R Y Y Y G	(G) $(R)$ $(R)$ $(R)$	) (Y) (R) (G) (Y)
		G G G	(G) (G	(G) (G)

PHASE 1 + 5	<b>4</b> − C	<b>4</b> -0	<b>♦</b> - G	R	R	<b>4</b> − G	<b>4</b> − G	<b>4</b> − G	R	R	R	R	R	R	R	A Principles
+ 5 CHANGE TO PHASE I + 6, PHSE 2 + 5 OR PHASE 2 + 6																
PHASE I + 6	<b>4</b> - €	<b>♦</b> - G	<b>4</b> − 6	Ĝ	G	<b>€</b> -R	<b>4−</b> R	<b>4</b> −R	R	R	R	R	R	R	R	A STATE OF THE STA
CHANGE	<b>4</b> Y	<b>4</b> − Y	<b>4</b> - Y	G	G	<b>∜</b> −R	<b>4</b> −R	<b>4</b> −R	R	R	R	R	R	R	R	sources of the source of the s
PHASE 2 + 5	<b>4−</b> R	<b>4</b> − R	<b>←</b> R	R	R	<b>4</b> − G	<b>4</b> − G	<b>4</b> − G	G	G	R	R	R	R	R	Enterioris
5 CHANGE	♣ R	<b>4−</b> R	<b>4</b> −R	R	R	<b>4</b> -Y	<b>4</b> − Y	<b>4</b> - Y	G	G	₽	R	R	Ř	R	All Sections
PHASE 2 + 6	4-R	♣-R	<b>4</b> −R	G	G	<b>4−</b> R	<b>€</b> R	<b>♦</b> -R	G	G	R	R	R	R	R	Service de la constitución de la
2 + 6 CHANGE	4 R	♣-R	<b>4</b> −R	¥.	Ϋ́	<b>4</b> −R	<b>4</b> −R	4-R	Y	Y	R	R	R	R	R	manipality.
PHASE 3	<b>4</b> -R	<b>4</b> −R	<b>€</b> -R	R	R	♣-R	<b>€</b> -R	<b>∢</b> -R	R	R	G <b>d−</b> G	G <b>4</b> −6	G	R	R	Ŷ
3 CHANGE	4- R	<b>4</b> -R	<b>4</b> −R	R	R	<b>4</b> −R	<b>4</b> −R	<b>4−</b> R	R	R	¥	Υ	Y	R	R	gilmyddyndig
PHASE 4	4-R	<b>◆</b> R	<b>4</b> −R	R	R	♣-R	<b>4</b> −R	<b>4</b> −R	R	R	R	R	R	<b>4</b> -6	Û	***************************************
4 CHANGE	<b>4</b> −R	<b>4</b> -R	<b>←</b> R	R	R	<b>4</b> −R	<b>4</b> −R	<b>4</b> −R	R	R	R	R	R	Y	٧	and the
FLASHING OPERATION	F/	F/	F/	F/Y	F/Y	F <b>≰</b> R	F ∕ <b>⊕</b> R	F AR	F	FY	F/R	F/R	F/R	F/R	FR	***

# EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CODE NO. SECTION QUANTITY DESCRIPTION

CATEGORY SPEC.

£	the proprietal confession of the second second	PORTOGORNOS, DOMONOS COMO PORTOGORNOS CO	approximate physical professional and a single contract to the second and the sec	all policies and with an experimental control of the control of th
	114245	104	40 L.F.	24 IN. REMOVABLE WHITE PREFORMED PAVEMENT MARKING TAPE
	203030	205	4 C.Y.	TEST PIT EXCAVATION
Allered	801004	8	5.2 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
	802501		50 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
	805011	805	42	FURNISH AND INSTALL I IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
	805 5	805	240 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
	805118	805	290 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
	805125	805	380 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
S. S	805135	805	30 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
	805140	805	960 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
	805155	805	200 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
	811001	8	22 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
	813010	8	4 EA.	BAND SIGN TO SIGN SUPPORT
Jecon Chine Viscosito	813015	(C.)	45 S.F.	INSTALL OVERHEAD SIGN
	837001	804	4 EA.	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
	838002	807	I EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (240/480V, I PHASE, 3 WIRE SYST.)
	860035	814	5 EA	INSTALL 12 IN. I WAY 3 SECTION (R, Y, G) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
	860037	814	6 EA.	INSTALL 12 IN. I WAY 3 SECTION (RA, YA, GA) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
Senior Digor can	860039	814	2 EA.	INSTALL 12 IN I WAY 4 SECTION (R, Y, G, GA) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
SACAS MANAGEMENT COLOR	861104	810	2510 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR (ALUMINUM-SHIELDED)
Oxenerturessinaneous.	861107	810	210 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5-CONDUCTOR (NO. 14 A.W.G.)
San botteness beautions	861108	810	3190 L.F.	FURNISH AND INSTALL ELECTRCIAL CABLE - 7-CONDUCTOR (NO. 14 A.W.G.)
de de la constante de la const	861116	810	710	FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR (NO. 12 A.W.G.)
	862101	810	3815 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
distribution of the second	862102		1445 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR))
need by the state of the state	866101	818	J LA.	FURNISH AND INSTALL 10 FT. LIGHTING ARM ON SIGNAL STRUCTURE
SERVITA SERVICE TO SER	Email memory memory memory france	816	A 33	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE-MOUNT
ewwy.compactions.com	873001	XXX	LUMP SUM	REMOVE AND SALVAGE EXISTING EQUIPMENT
eelattieskeeksteisteskeesteistes	800000	810	Section Sectio	FURNISH AND INSTALL MICRO LOOP PROBE SET WITH 1000 FT. LEAD-IN
(ANTENDESITE SAVINGO)	800000	810	2 EA.	FURNISH AND INSTALL MICRO LOOP PROBE SET WITH 500 FT. LEAD-IN
THE WASHINGTON TO SHEET WA	800000	805		FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
designation with the control of the	800000	805		FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
Habiting and social actions of the social ac	800000	806	3 EA.	FURNISH AND INSTALL 250-WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE WITH PHOTO CELL
eni dibenseda per principale	800000		2 EA.	RELOCATE EXISTING SIGN
Sections standard toolses.	800000	818	2 EA.	FURNISH AND INSTALL 27' STEEL MAST ARM POLE AND SINGLE 70' MAST ARM (PAINTED BROWN)
WYSHINGSHINGSHAW	800000	818	t EA.	FURNISH AND INSTALL 27' STEEL MAST ARM POLE AND SINGLE 50' MAST ARM (PAINTED BROWN)
and the state of t	000008	XXX	LUMP SUM	REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT
жения в подвержения в подверж	800000	XXX	LUMP SUM	DELIVERY OF SALVAGED TRAFFIC SIGNAL EQUIPMENT  MAINTENANCE OF TRAFFIC PHASE I  3 OF 5
VICIO!				

	STRANDED	BARE	COPPER	GROUND	WIRE	(NO.6	A.W.G.)

ELW - EXISTING LOOP WIRE

LW - LOOP WIRE

ML - MICRO-LOOP PROBE SET

GROUND ROD, 3/4 IN. X 10 FT.

PS - PROPOSED ELECTRICAL SERVICE (UNDERGROUND)

THE WILSON T. BALLARD CO. CONSULTING ENGINEERS OWINGS MILLS, MARYLAND

REVISIONS

-25-85 ADDENDUM TO HO-581-501-7

LOCATION OF CONTROLLER CHANGED TO SW QUAD FROM SE ISLAND

3-97 ADDITION OF EB MD 17

LANE AND HANDHOLE RELOCATION

(E) 6-97 - WTB - H07645170

RECONSTRUCT SIGNAL TO NEW

GEOMETRICS

OOP DETECTOR FOR NEW LEFT

ASST. DIVISION CHIEF, TEDD ASST. DISTRICT ENGINEER, TRAFFIC

N/A

.H.A. NO.

CHECK BY: \_\_\_\_

APPROVALS

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

MD 175 AND DOBBIN ROAD

LOG MILE NO. 13017504.18 DATE 3/16/76

SHEET NO .: '

S-1396E-XI-GI

SHEET NO.

\_27 OF \_46

RAWN BY: J.G. & O. ZAFRIS SEE TITLE SHEET

HO-400-501-785